Todd F. Silbergeld
Director
Federal Regulatory

SBC Communications Inc.
1401 I Street, N.W.
Suite 1100
Washington, D.C. 20005
Phone 202 326-8888
Fax 202 408-4806

DOCKET FILE COPY ORIGINAL

November 5, 1997

EX PARTE OR LATE FILED

RECEIVED

NOV - 5 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE PRESENTATION

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98*

Dear Mr. Caton:

Please be advised that today the attached letter was delivered to Chairman William E. Kennard. Due to the subject matter of the letter and its attachment, please include the documents in the official record in this matter.

In accordance with the Commission's rules governing ex parte communications, an original and two copies are submitted herewith. Do not hesitate to contact me should you have any questions.

Very truly yours,

Todd F. Silbergeld

Attachment

cc: The Hon. William E. Kennard

No. of Copies rec'd 0+2
List ABCDE

Dale (Zeke) Robertson
Senior Vice President

SBC Telecommunications, Inc.
1401 I Street, N.W.
Suite 1100
Washington, D.C. 20005
Phone 202 326-8836
Fax 202 289-3699

November 5, 1997

The Honorable William E. Kennard
Chairman
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Dear Chairman Kennard:

The two year anniversary of the Telecommunications Act of 1996 is now less than three months away. Many industry observers have opined that the promise of the '96 Act – increased competition in *all* telecommunications markets – has not been fulfilled.

With respect to the local exchange market, some competing local exchange carriers (CLECs), including the interexchange carriers (IXCs), have suggested that competition has been slow to develop because of deliberate efforts by the incumbent local exchange carriers to impede their entry. These CLECs contend that until substantial competition develops in the local exchange, the Bell companies should be denied long distance relief. They also argue that keeping the Bell companies out of long distance will create incentives to enhance the development of competition in the local exchange. However, nothing could be further from the truth.

A recent study by Peter Huber entitled "Local Exchange Competition Under The 1996 Telecom Act – *Redlining The Local Residential Customer*" concludes that local competition has developed rapidly – but only where competition makes strategic and economic sense for the new entrants. Competition makes sense and is occurring at the high end of the market, where CLECs have built-out facilities and targeted business customers. Competition has been much slower to develop in the residential market, as CLECs focus their attention on the business customer and redline the residential customer.

The study reveals that the "one final – and decisive – obstacle" to the rapid development of competition in local residential markets is the absence of Bell company entry into long distance. CLECs today have the ability to offer complete bundles of local, long distance, and other telecommunications services to residential customers, but they have largely chosen not to do so. Absent existing legal and regulatory incentives, they would have compelling business reasons to enter this market on a widespread basis. However, the Bell companies are prohibited from offering long distance and therefore a competing bundle of such services. So long as the CLECs can keep the Bell companies out of long distance

by not competing for local residential customers, they have no incentive to rapidly enter the market and compete for residential customers.

Finally, the study demonstrates that the only way to jump start local exchange competition is to simply let the bundling begin, by allowing the Bell companies to enter the long distance market. Once the Bell companies are able to offer their customers – both residential and business – bundled packages of local, long distance, and other services, the CLECs will be forced to compete. The result will be increased competition in all markets.

Proof of this can be found in the Connecticut experience. There, Southern New England Telephone (SNET) – which served about 97% of the access lines – began offering a complete bundle of local and long distance services. Unable to block SNET in the legal and regulatory arenas, AT&T, MCI, and TCI thus entered the local market to offer a competing package of local and long distance to both residential and business customers. Moreover, SNET immediately undercut AT&T's long distance rates by an average of 17% and gained about 35% market share. To respond to "the rapidly emerging competition from SNET," AT&T and MCI sought permission from this Commission to cut their interstate long distance rates in Connecticut only, which was refused. Consequently, AT&T and MCI lowered their intrastate long distance rates. As a result, local competition has developed faster in Connecticut than any other state, and Connecticut consumers have seen increased competition in long distance.

In conclusion, existing legal and regulatory policies which create incentives for the CLECs not to compete for the residential customer and which bar the Bell companies from entering the long distance marketplace, will not result in increased local or long distance competition. A copy of the study is enclosed with this letter, which I commend for your reading.

Very truly yours,

Dale Robertson

Dale (Zeke) Robertson
Senior Vice President

Attachment

LOCAL EXCHANGE COMPETITION

UNDER THE 1996 TELECOM ACT

Red-Lining The Local Residential Customer

NOVEMBER 4, 1997

LOCAL EXCHANGE COMPETITION UNDER THE 1996 TELECOM ACT

Re-Lining The Local Residential Customer

Executive Summary

- Under the Telecommunications Act of 1996, competition in the local exchange has developed rapidly, wherever its makes economic and strategic sense for the new entrants. Judged against the historical record in other markets, the competitive record in local markets since passage of the 1996 Act is excellent. Far more has happened in local exchange markets during 18 months of private interconnection negotiations, than happened in other telecommunications markets after years of interconnection regulation minutely orchestrated by federal regulators.

- Competing local exchange carriers have made massive capital investments in new switches and fiber deployment. About 1,700 interconnection agreements have been reached, and over 280 companies are providing competing local exchange service of some kind.

- Competing local exchange carriers are free today to sell complete bundles of local, long-distance, and other telecommunications services to all segments of the local exchange market. However, for economic and strategic reasons, they have concentrated on the high, business end of the market and deployed competitive fiber optic networks through business areas of high daytime population, while bypassing -- i.e., red-lining -- residential areas with low daytime population.

- The economic and strategic reasons for this are two-fold. First, price-to-cost ratios are from 2 to 6 times more attractive to new competitors in business markets, because residential rates have been set by regulation 50-80% below business rates in order to preserve universal service. Second, because of existing legal and regulatory incentives, competitors have no compelling business reasons to compete in both the residential and business markets. There simply is no other major competitor offering both residential and business customers a bundled package of local, long distance, and other telecommunications services.

- Thus, there remains one final and decisive obstacle to local competition in the residential market -- the special provision in the 1996 Act preventing the Bell companies from competing in the long distance market. This provision prevents the Bell companies from offering a bundled package of local, long distance, and other services. Moreover, the FCC has made it clear that AT&T, MCI, and other potential local exchange competitors can effectively keep the Bell companies out of long distance by not competing in local residential markets.

- Competitors have thus chosen to maximize their profits by selling bundled packages of telecommunications services to business customers, and to largely avoid the residential market. They recognize that when one carrier begins offering fully

bundled local and long distance services in any major market to both residential and business customers, others will immediately have to follow. Thus, they have concluded that competing in both the local residential and business markets is not an attractive option because it will likely result in Bell company entry and competition in all markets.

- The only way to jump start local competition for residential consumers is to simply allow the Bell companies into the long distance market. Only then will AT&T, MCI, Sprint and other competing local exchange carriers enter the residential market. They have no incentive at all to be first, but they will have a strong incentive not to be too far behind.

- Proof of this is the Connecticut experience. Connecticut is the only state where the incumbent local exchange telephone company which provided local service to the majority of the population -- Southern New England Telephone Company -- was permitted to offer a bundle of local and long distance service to residential customers. Unable to block SNET in the regulatory arena, AT&T, MCI, TCI, and other companies responded by offering their own packages of local, long distance and other services to all customers in the marketplace. Connecticut consumers thus benefited with lower rates from both the early arrival of local competition, and from heightened competition in long distance.

- The Connecticut experience confirms that the important challenge for public policy markers is not how to promote competition for residential service that is already ubiquitous and artificially cheap. Rather, it is to promote competition for the entire bundle of telecommunications services that residential consumers will buy if offered by a major competitor.

- This will only occur if the Bell companies are freed to compete in the long distance marketplace.

LOCAL EXCHANGE COMPETITION UNDER THE 1996 TELECOM ACT

Red-Lining The Local Residential Customer

SUMMARY

In February 1996, Congress passed, and President Clinton signed into law, a sweeping reform of U.S. telecommunications regulation. The Telecommunications Act of 1996 was intended to open entry to new competition in every segment of the industry: long-distance and local, wireline and wireless, copper and cable, service and equipment. The Act is now over a year and a half old.

How well has competition evolved so far? In local markets, competition has developed rapidly – but only where competition makes strategic and economic sense for the new entrants. It makes sense in the business markets of larger cities. In residential markets, competitors are selling and reselling measured service (often at steep per-minute rates), local toll service, heavily bundled services, and even some basic flat-rate service in some states. But these competitors only build facilities out to business customers. WorldCom, the local competitor most in the news recently, has made red-lining the centerpiece of its competitive strategy. John Sidgmore, WorldCom's Vice Chairman, has said that "[f]rom the very start, we've been focused on the business market rather than the consumer market, and I think that has really set us apart."

Local Competition

In local markets, competition has developed rapidly – wherever competition makes strategic and economic sense for the new entrants. That competitive sphere includes business services of all kinds: short-haul toll services, mobile services, many data services, and other enhanced services.

- The primary objective of the 1996 Act was to open all telecom markets to competition. As of November 1997, over 280 companies were providing competitive local exchange carrier service of some description – companies like WorldCom and TCG, cable companies, interexchange carriers, providers of personal communications services, providers of shared tenant services, and others.

- Interconnection regulation, Congress recognized, can greatly accelerate the development of competition and efficient collaboration in networked industries. Over 1,500 interconnection agreements had been reached by November 1997.

- In SBC's seven-state region, competitors are serving over 300,000 lines via resale. Likewise, in BellSouth's region, competitors are serving 130,000 such lines. Even in South Carolina, a BellSouth state in which competitors have generally shown very little interest, competitors are reselling nearly 4,000 lines.

- Capital investment in competitive local exchange facilities is rising fast. Counting AT&T, MCI, and Sprint among them, the companies currently competing in local exchange markets invested $2 billion less than the Bell Companies in 1993. By 1997, capital investment by that same group had surpassed Bell Company investment by about $4 billion.

- Competitive local carriers installed over 500 new switches in 1996, and another 270 in the first half of 1997 – far more new switches than were deployed by Bell Companies.

- Until recently, Bell Companies were by far the largest buyers of fiber-optic cable, even with AT&T and MCI included on the other side of the comparison. Current indications are that other buyers of fiber will outstrip the Bell Companies within the decade, if they have not done so already.

- Data traffic is growing much faster than voice and will soon surpass it, if it has not already done so. Since passage of the 1996 Act, cable operators have begun offering data services to a rapidly growing number of customers in this high-growth segment of the market. A projected 80 percent of homes passed by cable lines will be able to access the Internet over cable by 2002, and a quarter of them are expected to subscribe. By that estimate, one third of all Internet users will be accessing the Internet over cable networks.

- By November 1997, providers of wireless PCS had concluded negotiations and signed 157 interconnection agreements with incumbent wireline carriers. Since passage of the 1996 Act, PCS providers have launched commercial service in markets that serve half of the U.S. population. Wireless prices are falling.

A study commissioned by AT&T and MCI before passage of the 1996 Act concluded that natural economic forces would prevent cable and wireless operators from having any significant competitive impact on local markets in the foreseeable future. But judged against the historical record in other markets, the competitive record in local markets since 1996 is excellent. Far more has happened in local markets during twenty months of private interconnection negotiation than happened in other markets during years of interconnection regulation minutely orchestrated by federal regulators.

Competition at the High End of the Market

Local phone companies spend an average of $27 to $37 per month to provide a local phone line and dial tone for normal levels of local calling. The average business subscriber pays a monthly fee for a basic line, dial tone, and subscriber line charge that aligns fairly closely with that average cost. The average residential subscriber, by contrast, pays a basic fee of about $17 – typically 50 to 80 percent lower than business rates. Incumbent local phone companies make up the shortfall on fees charged to provide interexchange access (which generate average net monthly revenue of $3-$4 per line), local toll charges (net monthly revenue of $3 per line),

vertical services like call waiting and Caller ID (another $4 per line), and business services generally.

These numbers reflect a deliberate regulatory policy to maintain affordable service and promote universal connection. In most markets, subsidies of any kind are inefficient, but their effect on efficiency in networked industries is less clear. The value of the telephone network is enhanced each time a customer is added to the network – every new connection creates a positive "network externality." All other subscribers benefit from every new subscriber added to the network. There are thus strong social and political reasons to maintain affordable residential rates, and legitimate economic and efficiency arguments too.

Price regulation of local residential service does, however, clearly affect the trajectory of competition. Lowering prices on one side of the local market channels competitive investment toward the other, at least initially. Any company with money to invest in a new network will surely build out to business customers who currently pay $30 a month for measured service before it builds out to residential customers who currently pay a flat-rate $17 for unlimited service.

This is precisely what has happened so far, in the twenty months since the 1996 Act opened local markets to competition. In residential markets, competitors are selling and reselling measured service (often at steep per-minute rates), local toll service, heavily bundled services, and in some states, basic flat-rate service. When it comes to building networks, however, they build out to business customers alone. Competitors thread competitive fiber-optic networks through areas of high daytime population – business areas – while bypassing areas with low daytime population.

WorldCom, which recently announced a $30 billion stock bid for MCI, has been an explicit and unapologetic leader in implementing a red-lining strategy of this kind. WorldCom's existing long-distance, local, and Internet operations serve business customers almost exclusively. The company has repeatedly stated that residential service plays no part in its business plans. The proposed acquisition of MCI generally fits with this established strategy. On the long distance side, WorldCom has suggested that it might sell or shed MCI's current base of 20 million residential customers, keeping only MCI's three million business customers. MCI's local networks, particularly MCImetro, run almost exclusively to business customers. And WorldCom's local arm, MFS, has no plans at all to build out to residential customers. According to the company's chairman Bernard Ebbers, "[n]ot AT&T, not MFS or anyone else, is going to build local telephone facilities to residential customers. Nobody ever will, in my opinion."

Competitive Opportunities and Regulatory Impediments

That some elements of basic, residential, local service are priced below cost complicates the competitive picture, but it should not, standing alone, make competition impossible. The typical customer buys enough additional local toll and vertical services to remain an

economically attractive competitive target, absent other obstacles to entry. And the typical customer strongly prefers to buy the entire bundle from a single vendor, if (s)he can. Vendors recognize that bundling lowers their marketing costs, raises customer loyalty, reduces churn levels, and increases overall usage – in business and residential markets alike. In some markets, at least, MCI, AT&T, Sprint, and WorldCom, among others, are already assembling bundles of service to accommodate customer demand.

Competitors are legally free today to sell complete bundles of local, long-distance, and other telecom services, and – regulation aside – have compelling business reasons and opportunities to do so. As soon as one vendor begins offering fully bundled local and long-distance service in any major market, other vendors will immediately follow. They will have no choice. Customers will buy bundles, rather than bits and pieces of service, if they can.

There remains, however, one final – and decisive – obstacle to local competition in residential markets. Bell Companies remain formidable potential competitors in all telecom markets in which they do not already compete. The regulatory artifact is equally well understood, at least within the industry itself. Bell Companies are not currently permitted to compete in the highly profitable long-distance toll markets. That first handicap creates a second one: Bell Companies are also hobbled in competing for most lucrative business customers even in local markets, because all customers prefer to buy complete service packages, not bits and pieces. Finally, the FCC has made clear that AT&T, MCI, and other potential competitors can keep Bell Companies caged by not competing in local residential markets.

Every actual or potential rival of the Bell Companies benefits from this perverse regulatory policy. Incumbent long-distance providers clearly benefit, AT&T and MCI most strongly among them. These two companies completely dominate residential long-distance markets, and residential service generates the bulk of their interexchange profits. Other competitors with no interest in residential markets, or no long-distance networks of their own, have equally strong incentives to help preserve the Bell Company quarantine. The most profitable opportunity for these competitors is to sell bundled services to business customers, and they accommodate customer demand by doing so. Preventing Bell Companies from offering comparable bundles is very much to their advantage.

Every potential competitor in local residential markets will assess the opportunities for competition not only on its economic merits, but also on its regulatory de-merit – the risk that competition will end up letting the Bell Companies compete too. In most local markets today, the potential profit from capturing some share of residential markets – profits that are depressed from the outset by an array of subsidies and below-cost prices – is plainly outweighed by the potential losses that new Bell Company competition would then entail.

Policies to Promote Competition

Few casual observers, however, are prepared to accept that local markets are competitive when the populist consumer – the residential subscriber – can still buy the populist service – basic, local, voice – from only a single provider. When will there be a second?

In some of the largest states, a second and more are up and running today. In California and New York, for example, regulators have chosen to set residential prices at levels fairly close to business rates, and that has helped tip the competitive calculus in favor of entry. But in most other states, the best competitive strategy is to keep the incumbent caged. The way to do that, so far at least, is not to compete in local residential markets at all.

In these circumstances, the only way to get competition started is to simply let the bundling begin. Of course, local phone companies will try to bundle first, if they can: they have much to gain by doing so, and nothing to lose. But insisting that they start second only guarantees that no bundling – and therefore no competition in residential markets – will start at all. Only by allowing local phone companies to go first will regulators impel others to beat them to it. AT&T, MCI, and other long-distance carriers have no incentive at all to be first. But they do have a strong incentive not to be second or third. The moment it becomes clear that a first is coming, one way or another, long-distance carriers will take steps to make sure they are not left far behind. They may not build out their own networks immediately, but they will certainly begin packaging what they already sell with local loop and dial tone supplied to them by local carriers at discount rates.

The few parts of the country that have seen relaxed regulation of local and other markets have realized tremendous benefits from them.

Connecticut would hardly appear to be the nation-leading target for competition: much of the southern part of the state is a residential suburb of New York City, and Connecticut's residential rates are well below business rates. Hartford, the state's main business center, ranks only 143rd in population nationwide. Nevertheless, Connecticut was one of the first states targeted by major carriers for local competition. AT&T began offering residential service in Connecticut only a few months after it entered California. MCI included Hartford on its short list of initial targets for local entry. TCI chose Hartford and surrounding suburbs as its first U.S. locality in which to offer advanced digital telephone, cable, and Internet access services, and invested heavily in its Hartford network during a period when the company virtually froze investment everywhere else. Over 20 other cable, wireless, and fiber-optic competitors have been certified to offer local exchange service in the state. TCI has invested $300 million on a new digital network in the state. MCI and several other competitors are pouring money into other networks. The incumbent local carrier is responding with $4.5 billion of new investment in higher bandwidth, long-distance service, and video.

All of this competitive activity can be traced to the competitive initiatives of Connecticut's incumbent local phone company, Southern New England Telephone (SNET).

Connecticut is the only state in the continental United States whose phone company is permitted to offer bundles of service to residential customers. SNET began offering a complete bundle of local and long-distance services to Connecticut customers in April 1994. SNET immediately undercut AT&T's prices by an average of 18 percent; by February 1997, SNET was providing long-distance service to about 35 percent of access lines in the state.

Unable to block SNET in the regulatory arena, AT&T, MCI, TCI, and other companies simply had to respond in the marketplace, and that is exactly what they did. Both AT&T and MCI even sought FCC permission to cut their interstate toll rates in Connecticut alone, to respond to "the rapidly emerging competition from SNET." When permission was denied, they started offering extremely low in-state toll rates instead. Connecticut consumers thus benefited from the early arrival of local competition. And they benefited even more from heightened competition in long-distance markets. Households that sign up for SNET's cut-rate service save about $7 per month. By comparison, their residential local service averages about $18 per month. The competitive gains in both residential and long-distance markets resulted from a single regulatory policy: Let competitors compete.

Local residential competition in the United Kingdom has flourished under a very similar regulatory regime. The U.K. has over 20 facilities-based competitors offering local service at prices equal to, or in most cases below, British Telecom's rates. SBC, U S West, and other Bell Companies have formed business alliances with U.K. cable companies and other competitors. Nearly 40 percent of U.K. households now have the option to purchase cable telephony. All of this has occurred under a regulatory regime very much less interventionist than our own. As competition has developed, British regulators have deregulated further still.

The Connecticut and U.K. experiences confirm that the important challenge for policy makers is not how to promote competition to provide the single component of residential service that is already ubiquitous and artificially cheap. It is to promote competition in the entire bundle of services that residential consumers buy. Over the longer term, the objective must be to promote new investment in advanced services, and to make sure that the investment is not channeled only to the many profitable peaks of the market, and away from the one unprofitable valley.

Promoting New Investment in Broadband Services

The benefits to be gained from new investment in local infrastructure have never been greater. The Internet is the most important development in mass communications of our times. It is a major driver of economic growth in the United States and around the globe. Demand for bandwidth is rising rapidly, doubling every 3½ months. Key components of the supply chain are not keeping pace, however. The supply of Internet bandwidth is lagging seriously, especially for residential subscribers. The reasons are again rooted in regulatory policies that block entry by the companies most able to meet the surging demand, and with the strongest incentives to do so.

Contrary to many popular perceptions, the worst problems of blocking and slow speeds

in the Internet today are centered not in the local exchange but in the networks among the ISPs and backbone carriers. On average, users cannot download across the backbone networks faster than about 40 kilobits per second, considerably slower than the high-bandwidth local access technologies currently being deployed allow.

At the level of the Internet backbone, AT&T and MCI show little promise as architects of the network of the future. AT&T and all other long-distance carriers who derive most of their current revenues from voice must recognize that growth of the Internet threatens their profits almost as much as Bell Company entry into long-distance markets. By doing little to add to Internet infrastructure, incumbent long-distance carriers have left the field largely to a single ambitious upstart that is buying up large parts of the infrastructure already in place.

In these circumstances, Bell Companies clearly should be playing integral roles in supplying new Internet bandwidth, not only for local access, but up through the highest tiers of the network as well. The Bell Companies certainly have the right incentives to invest in this market, because the growth of the Internet helps them to sell additional telephone lines and new local bandwidth through services like ISDN. Unlike the incumbent long-distance companies, local phone companies have much to gain by migrating customers, residential customers in particular, off subsidized, flat-rate analog lines and onto high-capacity, properly priced, digital lines. But most of the local telephone companies (aside from GTE) are legally barred from providing Internet backbone services. The current regulations that apply to Internet services discourage only one class of provider – the Bell Companies.

A second cluster of regulatory policies is creating equally strong disincentives to new investment in local Internet access facilities. Under the 1996 Act, Bell Companies are now required to "unbundle" and sell to their competitors whatever new capabilities and services they add to their networks, at rates determined by regulators, not market forces. On new, risky investment in facilities and services that turn out to be very popular, Bell Companies can therefore hope to recover only their original costs. New, risky investments that fail, by contrast, are charged to Bell Company shareholders, through the vehicle of price-cap regulation. Worse still, all Bell Company prices must be deflated according to a "productivity offset" concocted by the FCC, and pegged at a level that is unrealistically high. Regulation alone may thus transform any well-engineered, efficiently-priced, new broadband service into a source of steadily growing loss in subsequent years.

Under unbundling and interconnection regulations promulgated by the FCC, neither competitors nor incumbents will deploy such technology to reach any but the largest and most profitable business users. Competitors have little incentive to deploy the technology themselves, and the FCC has directed that they may lease successful new technologies from incumbent local carriers at FCC-determined cost, with no risk of losing on unsuccessful investments. Facilities-based competition by new entrants, and new investment by incumbents, will occur only when interconnection prices are properly aligned with underlying costs. Local phone companies will

not deploy the technology either, because if the new services prosper, competitors will be able to buy them piece by piece, at sharp discounts, and capture the profits.

Finally, many of the traditional sources of profit allowed by regulators to support below-cost residential service in local markets are immediately put in jeopardy by new broadband services. The new digital lines will overwhelmingly be categorized as "enhanced services," from which local phone companies do not currently collect long-distance access charges. High-bandwidth lines will also displace profitable second lines and other vertical services – the main sources of revenues that allow local phone companies to comply with regulatory mandates to set the price of basic residential service well below cost.

The stated goal of the 1996 Telecommunications Act is "to accelerate rapidly private sector deployment of advanced telecommunications and information technologies." As the experience in Connecticut has shown, less regulation promotes more investment. Section 706 of the 1996 Act gives regulators the flexibility they need to learn from the Connecticut experience. It authorizes both the FCC and state authorities to "encourage the deployment . . . of advanced telecommunications capability" through "price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."

In sum, regulators have in hand all the authority they need to unleash local competition and spur rapid new investment in high-bandwidth infrastructure. It is time to use it.

TABLE OF CONTENTS

Page

LOCAL EXCHANGE COMPETITION UNDER THE 1996 TELECOM ACT

Red-Lining The Local Residential Customer[*]

1. LOCAL COMPETITION

Open Entry. The primary objective of the Telecommunications Act of 1996 was to "open[] all telecommunications markets to competition."[1] The Act therefore eliminates legal barriers to entry.[2] The framers of the Act fully recognized that in some local markets "a facilities-based competitor is not likely to emerge in the near term."[3] In writing standards for when Bell Companies would be permitted to enter long-distance markets, Congress therefore rejected all metric tests of competition in favor of a clear statutory "test of when markets are open."[4]

As of November 1997, over 280 companies had signed interconnection agreements to provide competitive local exchange service of some description in over 450 cities. **Figure 1**. These new "CLECs" include companies like MFS/WorldCom or TCG (formerly called "competitive access providers" or "CAPs"), cable companies, interexchange carriers, providers of personal communications services (PCS), providers of shared tenant services, and others. **Table 1**.

---

[*]This report was researched by Telecom Policy and Analysis Group and written by Peter W. Huber. The work was funded by SBC Communications Inc. and BellSouth Corporation. The views expressed are those of the author.

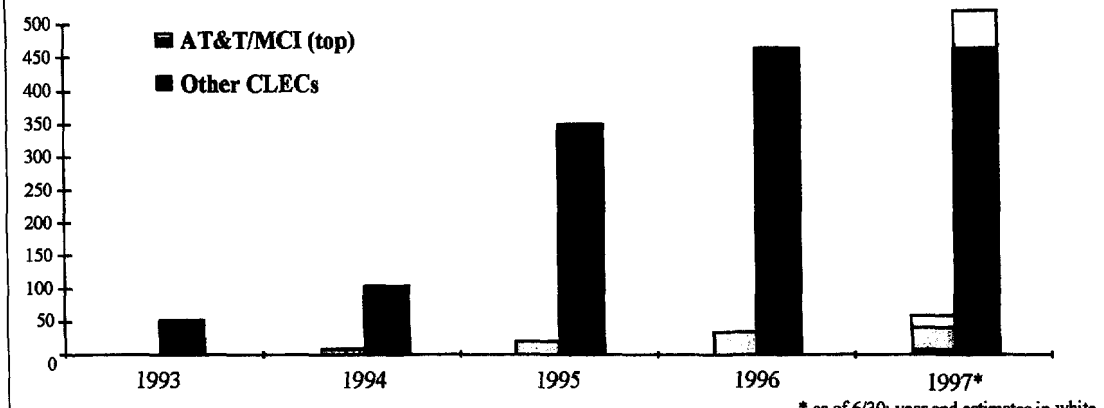
[1]Joint Explanatory Statement of the Committee of Conference, H.R. Rep. No. 438, S. Rep. No. 230, 104th Cong., 2d Sess., at 1 (1996) (*"Conference Report"*). The Act was designed to foster facilities-based competition in local telephone service. *See, e.g.*, First Report and Order, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, 11 FCC Rcd 15499, 15588 (1996) (*"Local Competition Order"*) ("pave the way for the introduction of facilities-based competition with incumbent LECs").

[2]47 U.S.C. § 253. The House Commerce Committee summarized the bill's purpose as the elimination of "statutory and regulatory barriers that have impeded the development of competition." H.R. Rep. No. 104-204, 104th Cong., 2d Sess. at 202 (1996) (*"House Report"*).

[3]*House Report* at 72.

[4]141 Cong. Rec. S8188, S8195 (daily ed. June 13, 1995) (Statement of Sen. Pressler).

Figure 1. Cities Served by CLECs



* as of 6/30; year end estimates in white.

Source: New Paradigm Resources Group, Inc. and Connecticut Research, Inc, 1997 Annual Report on Local Telecommunications Competition (8th ed. 1997).

Table 1. Selected Profiles

WorldCom: 15,000 fiber route miles, 50 digital switching centers, 100 POPs, and 1 million customer lines.[1] In addition, MFS has 85 switches,[2] 11,000 buildings-on-net,[3] and 3,677 route miles in 57 cities.[4]

Time Warner: CLEC network has 15 switches,[5] 300 buildings-on-net,[6] and 700 fiber route miles[7] in 18 cities.[8] Shared tenant service offered in 5,000 buildings.[9]

TCG: 155 switches,[10] 9,571 buildings-on-net, and 7,400 route miles in 57 major markets[11] with 8 new networks planned for completion this year.[12]

Brooks Fiber: 44 switches,[13] 2,810 buildings-on-net, 36,000 access lines, and 1,200 route miles in 44 metropolitan areas.[14]

ICG: 52 switches,[15] 545 buildings-on-net,[16] 17,000 access lines,[17] and 2,483 fiber route miles[18] in 19 metropolitan areas.[19]

Frontier: Customers in 32 markets outside of its local telephone operations, and adding over 2,000 access lines per month.[20]

Sources: [1]H.E. Blount, et al., Rauscher Pierce Refsnes, Inc., Co. Rpt. No.1847580, WorldCom Inc., at 2, 11 (Jan. 17, 1997). [2]Bellcore, TR-EOP-000315, Local Exchange Routing Guide, Aug. 1, 1997 (*"Bellcore LERG Database"*). [3]PR Newswire, Oct. 31, 1996. [4]H.E. Blount, et al., Rauscher Pierce Refsnes, Inc., Co. Rpt. No.1847580, WorldCom Inc., at 8 (Jan. 17, 1997). [5]*Bellcore LERG Database.* [6]1997 Annual Report on Local Telecommunications Competition, 8th Ed., New Paradigm Resources Group and Connecticut Research, 1996, at 521. [7]Http://www.pathfinder.com/@@ZnSaFgcATvzGWDqU/corp/twcable/index.html. [8]*Ibid.* [9]Multichannel News, March 17, 1997, at 8. [10]*Bellcore LERG Database.* [11]K.M. Leon, et al., Abn Amro Chicago Corporation, Co. Rpt. No. 1916888, Teleport Communications Group, Inc., at 11 (May 6, 1997). [12]Http://www.tcg.com/tcg/areas/index.html. [13]*Bellcore LERG Database.* [14]K.M. Leon, et al., Abn Amro Chicago Corporation, Co. Rpt. No. 1902096, Brooks Fiber Properties, at 1 (Apr. 29, 1997) (includes networks acquired from Metro Access Networks during second quarter, 1997). [15]*Bellcore LERG Database.* [16]S.P. Conrad, Deutsche Morgan Grenfell Inc., Co. Rpt. No. 2550652, ICG Communications, Inc., at 3 (May 5, 1997). [17]*Id.*, at 1. [18]*Id.*, at 2. [19]1997 Annual Report on Local Telecommunications Competition. [20]PR Newswire, May 2, 1997.

Interconnection Agreements. While the 1996 Congress saw open entry as the most essential change in the regulatory environment, it recognized that "it is extremely unlikely that competitors will have a fully redundant network in place when they initially offer local service."[5] Precisely because ubiquitous facilities-based competition might prove uneconomic, Congress directed all incumbent local carriers to interconnect their networks with competitors upon request.[6] Interconnection regulation, Congress recognized, can greatly accelerate the development of competition and efficient collaboration in networked industries; this regulatory lesson had already been learned in markets for customer premises equipment,[7] long-distance service,[8] cellular service,[9] and Internet services.[10]

Under the 1996 Act, competitors may lease unbundled, separately priced network elements for resale to end users.[11] Competitors may alternatively resell the incumbent's local service, buying that service at a discount from the price charged to retail customers and bundling it with the reseller's own long-distance, wireless, or other services.[12] In August 1996, the FCC promulgated rules purporting to implement these requirements;[13] those rules are currently under review in the courts.[14] The FCC set the discount range for the resale of local loops at 17 to 25 percent of the existing retail rates.

Interconnection negotiations began well before the FCC acted and have progressed rapidly, even as major parts of the FCC rules have (to this point) been rejected by the courts.[15] Some 200 interconnection agreements had been reached by February 1997, the first anniversary

---

[5] *Conference Report* at 148.

[6] 47 U.S.C. § 251(c)(1), (2).

[7] *See, e.g.*, Use of the Carterfone Device in Message Toll Telephone Service, 13 FCC 2d 420 (1968).

[8] *See, e.g.*, MCI Telecommunications Corp. v. FCC, 580 F.2d 590 (D.C. Cir. 1978); MTS and WATS Market Structure, Phase III, 100 FCC 2d 860 (1985).

[9] *See, e.g.*, An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems, FCC 2d 469 (1981); The Need to Promote Competition and Efficient Use of Spectrum for Radio Common Carrier Services, 2 FCC Rcd 2910 (1987).

[10] *See, e.g.*, Report and Order, Amendment of § 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), 104 FCC 2d 958 (1986).

[11] 47 U.S.C. § 251(c)(3).

[12] 47 U.S.C. § 251(c)(4).

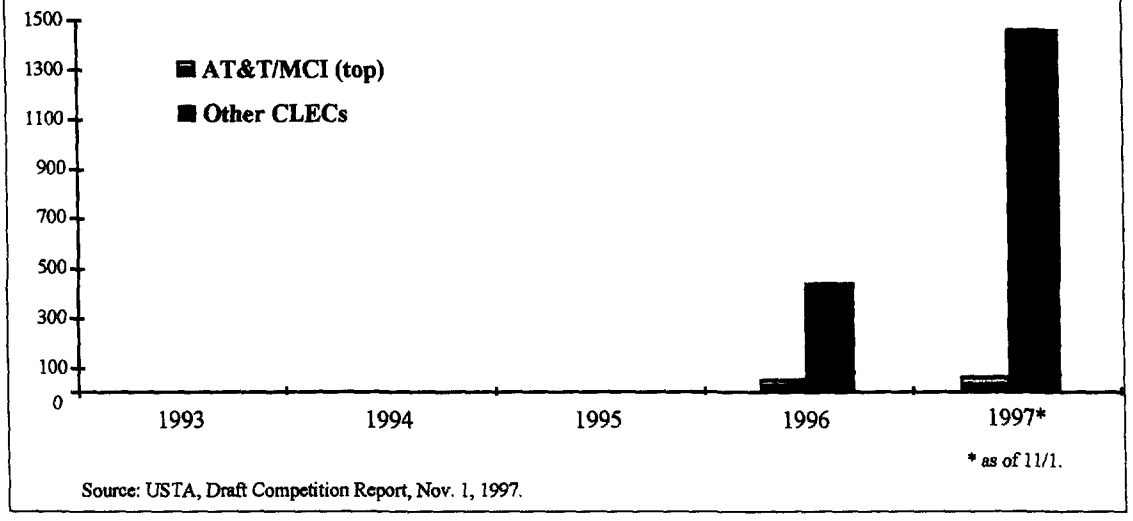
[13] *Local Competition Order*, 11 FCC Rcd 15499, 15616 (unbundling), 15812 (pricing of interconnection and unbundled elements), 15930 (resale).

[14] Order on Petitions for Rehearing, Iowa Utils. Bd. v. FCC, No. 96-3321 (8th Cir. filed Oct. 14, 1997).

[15] Iowa Utils. Bd. v. FCC, 1997 U.S. App. LEXIS 18183; (8th Cir. June 27, 1997) *vacating in part, Local Competition Order* ("*8th Circuit Decision*").

of the Act. As of November 1997, the number of agreements signed exceeded 1,500.[16] **Figure 2**. SBC alone has signed over 200 interconnection agreements in its seven-state region, 150 of which have been approved by state commissioners. Twenty months after the Act was signed, these dramatic numbers provide irrefutable evidence that the Act is rapidly accomplishing its first and most central purpose. Legal barriers to entry are gone. Interconnection agreements are being signed at a rapid and accelerating pace. **Table 2**. Companies do not negotiate and sign over 1,500 interconnection agreements for the fun of it. They sign them to compete.

Figure 2. Interconnection Agreements



Source: USTA, Draft Competition Report, Nov. 1, 1997.

[16]United States Telephone Association (USTA), Draft Competition Report, Nov. 1, 1997 (excludes agreements between LECs and cellular carriers, but includes PCS providers). The USTA data on interconnection agreements is preliminary; a final release of the updated Competition Report is expected in the first week of November 1997.

Table 2. Competitive Carriers with Interconnection Agreements

Access Network Services	Continental Telecom	Hart Comm.	Network Access Solutions	Southern Phon-Reconnek
ACM	Covad Comm.	Havre Answering	Multi-Family Comm.	Spectranet International
ACN	Crescent City Networks	Innovative Access	Multi Technologies Services	STL Partner
ACSI	CRG International	Interlink	National Tel	Strategic Technologies
Advanced Telecom	Cybernet	International Telecom	National Telecom of FL	Supra Telecom
AL 1-Franklin	Cytel	Interstate Tel	N.A. Telephone & Telecom	Talk One America
ALEC	Data & Electronic Services	Intertech	Network Multi-Family	TCG
America's Tel	DeltaCom	Inter-World	Nielsen Comm.	Telecarrier Services
American MetroComm	Dial & Save	IRSA Rockford	Northeast Telephone	Telecom Service Center
Annox	Dial Tone/Move	Jerry Laquiere	NOW Comm.	Tel-Link
Arch Comm.	Dial USA	Jetcom	NTS Comm.	Telephone Co. of Central FL
Arkansas Comm.	Don-Mar	KADCOM	OCI	Tele Sys
Atlantic Connections	East Florida Comm.	Kansas Comm.	OmniCall	Texas CommSouth
AXCES	Eatel	Kentucky RSA	OnePoint Comm.	Texas Teleconnect
AXSYS	ELI	Kingsgate Midsouth Telecom	Orlando Business Telephone Services	Tie Comm.
Birdsong Leasing	ENTERGY	KMC	PacWest	Tortoise Comm. & Paging
Business Telecom	ETC	Lambada Comm.	Pam Oil	Tricomm
California RSA	EZ Phone	LDM Systems	Payphone Consultants	TTE
Call-For-Less	Fast Connections	Leslie County Telephone Co.	Phone Michigan	Unicom Comm.
Capital Telecom	FI Comm. South	Levee Comm.	Phoenix Fiberlink	Unidial
CFW	Fiber South	Local Line America	Posner Telecom	Unique
Chickasaw Telecom	FI RSA	Local Telephone Service Co.	Preferred Carrier Services	US LEC
Chocktaw Comm.	First Line	Lone Star-Net	Preferred Network	US Network
Choicetel	First Tel	Louisville Lightwave	Q-Tel	US One
CMT Partners	Freedom Ring	Max-Tel	R&B	US WATS
Climax Telephone	Fresno MSA	Metracom	Reconex	Value-Line
Coast to Coast	Gasden	Metro Access Network	RGW Comm.	Vital Comm.
COI	Georgia Comm.	Metro Connection	Sagir	VITTS
COMAV	GCI	Metrolink Telecom	Salem Telephone	World Access
Com Brokerage	GST	MGC Comm.	Shared Comm. Services	WorldLink Comm.
Comm Buying Group	Global Tel Link	Micro-Com	Sharon Telephone	Wright
Comm Depot	G Net	M-Tel	Shell Offshore	
Consolidated	GTEC	Montana Comm.	SouthEast Telephone	

Long-distance Providers

AT&T	Excel Comm.	LCI	MFS/WorldCom	US Long Distance
ATT Alascom	Feist Long Distance	MCI	Preferred Long Distance	Western OK Long Distance

Cable Companies

Comcast	C-TEC	Jones Intercable	Rainier Cable	Time Warner
Cox	Hyperion	MediaOne	TCI (TCI Telephony)	

Wireless (Non-cellular)

ALLTEL Mobile	Centennial Cellular	NEXTEL	PageNet of Atlanta	Western Wireless
American PCS	Cook Telecom	PCS PrimeCo	Sprint Spectrum	WinStar Wireless
AT&T Wireless	Cox PCS	Powertel	Sprint PCS	
BellSouth PCS	GET Mobilenet	Page Kit Comm.	Triad Cellular	

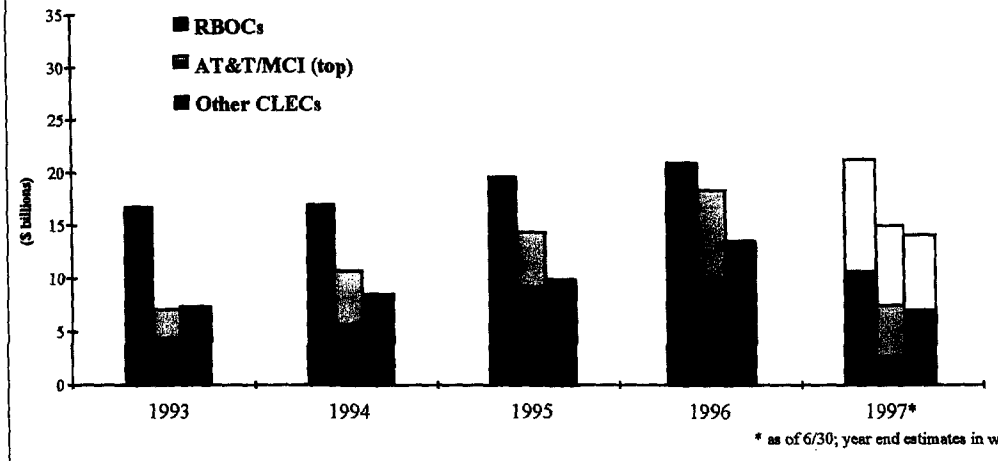
Incumbent LECs (Out of Region)

Ameritech	Frontier	SBC	SNET	GTE
Citizens	Sprint	BellSouth		

Source: United States Telephone Association, Interconnection Agreements by State.

Capital Investment. While precise figures are elusive, capital investment in competitive local exchange facilities is rising fast.[17] In 1993, the Bell Companies spent over $9 billion more on capital investment than cable operators, wireless companies, and four of the largest competitive access providers combined.[18] There is almost no remaining gap between the capital investments of those two groups today.[19] Counting AT&T, MCI, and Sprint among them, the companies currently competing in local exchange markets invested $2 billion less than the Bell Companies in 1993.[20] By 1997, capital investment by that same group had surpassed Bell Company investment by about $4 billion.[21] **Figure 3.**

Figure 3. Capital Expenditures



* as of 6/30; year end estimates in white.

Sources: 1995 and 1996 Annual Reports; 2nd Quarter 1997 Quarterly Reports, NCTA, Cable Television Developments, at 2, 10 (Fall 1996); CTIA, Semi-Annual Data Survey Results (Dec. 1995-1996), http://www.wowcom.com/professional/reference/graphs/gdtable.cfm. 1997 wireless expenditures were conservatively estimated from the 1993-1996 trendline.

---

[17]Few CLECs provide breakdowns of their investments between local exchange and other types of facilities, so there is no way to ascertain precisely how much CLECs – particularly those who also provide facilities-based long-distance service – are spending on facilities to provide purely local services.

[18]In 1993, total capital expenditures of all wireless companies, cable operators (excluding Time Warner), and the four largest CAPs (MFS (combined with WorldCom), Brooks Fiber, TCG, and ICG) were $7.4 billion, compared with Bell Company capital expenditures of $16.7 billion.

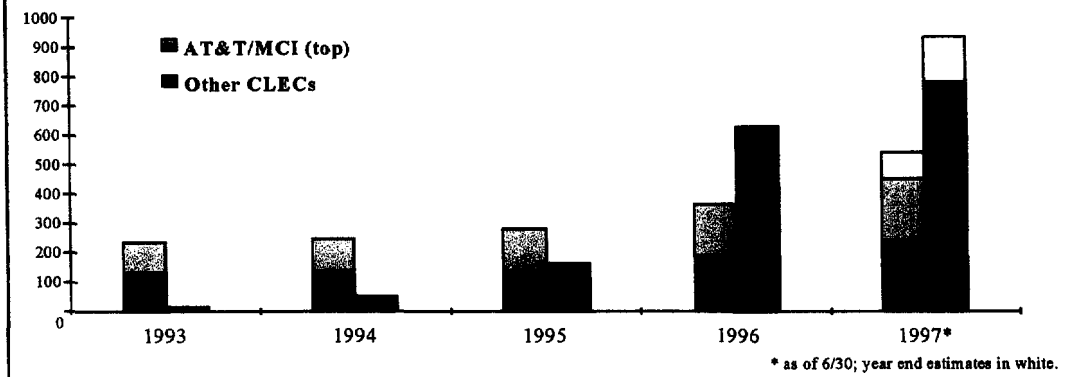
[19]Since the Act was passed, the Bell Companies have spent $32 billion, whereas cable companies have invested $13 billion, wireless companies have spent $13 billion, and the four largest CAPs have spent $3 billion. Due to conservative methodology, actual CLEC spending may be significantly higher than reported, and may have actually surpassed Bell Company spending since the Act.

[20]1995 Annual Reports of AT&T, MCI, and Sprint.

[21]Second Quarter 1997 Quarterly Reports of AT&T, MCI, and Sprint. The Bell Companies have invested a great deal of capital to meet their obligations under the 1996 Act. For example, SBC estimates that by the end of the year it will have spent $1.1 billion to upgrade its networks. About $450 million of this was spent on long-term number portability alone.

New Switches. Competitive local exchange carriers installed over 500 new switches in 1996, and another 270 in the first half of 1997. Bell Companies have deployed far fewer new switches in that same period.[22] The difference is partly attributable to the fact that Bell networks are mature, so capacity increases can often be accommodated within existing Bell facilities.[23] Nevertheless, since passage of the Act, competitive carriers in Arizona have deployed almost twice as many new switches as U S West;[24] competitors in Florida have deployed four times as many new switches as BellSouth;[25] competitors in Texas have deployed more than six times as many new switches as SBC.[26] **Figure 4.**

Figure 4. Competitive Switches



* as of 6/30; year end estimates in white.

Source: *Bellcore LERG Database* (versions: 7/93, 12/94, 7/95, 4/96, 10/96, 4/97 and 8/97); Northern Business Information, U.S. Central Office Equipment Market: 1996 Database 64-65 (1997).

Fiber Deployment. Until recently, Bell Companies were by far the largest buyers of fiber-optic cable nationwide. But the gap has been closing steadily during the last twenty months. In 1995, CLECs (including AT&T and MCI) deployed less than a quarter of the fiber the Bell Companies deployed. Since passage of the Act, competitive companies, excluding AT&T and MCI, doubled their installed base of fiber, deploying more than half the fiber of the

---

[22]Although the number of switches deployed by Bell Companies has remained flat (and actually fallen in some regions), Bell Companies have been replacing many older switches with a fewer number of new, higher capacity switches.

[23]Up to a point, it is possible to accommodate increases in capacity by adding modules to existing switches, rather than purchasing entire new switches; however, the LERG database only reports additions of entire switching entities, not the addition of modules.

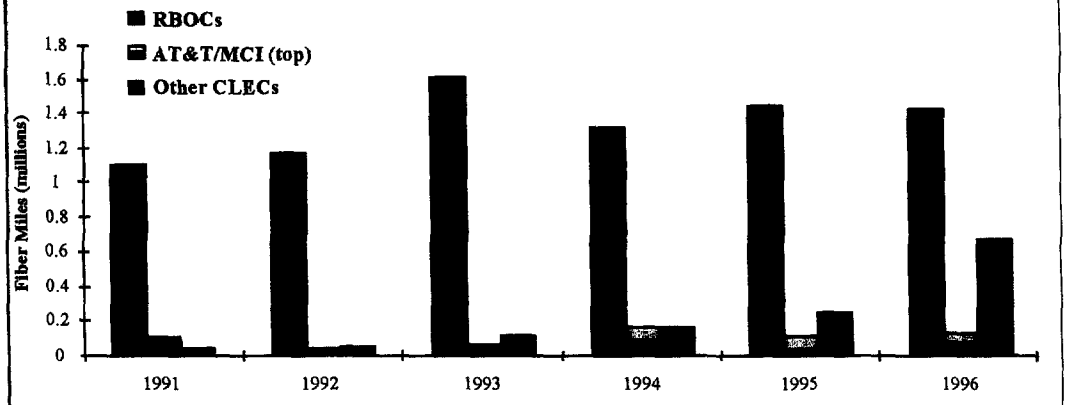
[24]TCG added 3 switches; GST added 2; and MCI, Brooks Fiber, Cox, and ACSI each added one in the state.

[25]WorldCom and MediaOne each deployed 5 additional switches, while Intermedia Communications (ICI) deployed 3.

[26]TCG added 9 in the state; AT&T added 11; MCI added 6; and ICG and WinStar each added 4.

Bell Companies. **Figure 5.** In 1996, non-Bell Companies purchased two-thirds of all fiber sold.[27] Current indications are that other buyers of fiber will outstrip the Bell Companies within the next decade.

Figure 5. Incremental Fiber Deployment



Source: J. Kraushaar, Ind. Anal. Div., FCC, End-of-Year 1996 Fiber Deployment Update at Tables 2, 6 and 14 (Aug. 1997).

Facilities Interconnection and Resale. CLECs are interconnecting their networks at a rapid pace as well. Over 100,000 interconnection trunks – used to connect a CLEC's network and switches to the Bell Companies' – are operational in SBC's seven-state region. BellSouth has installed 30,000 in its nine-state region. Over 300 physical or virtual collocation arrangements are operational in SBC's region, though nearly all of these are in California, with another 140 pending. There are 14 physical collocation arrangements in place in BellSouth's region and another 86 in progress,[28] and 133 virtual collocation arrangements with an additional 45 in progress.[29] CLECs are also beginning to resell Bell Company services. In SBC's region alone, competitors are reselling more than 330,000 lines (180,000 in California and over 115,000 in Texas). Nearly 40,000 were converted to resale in September alone. Similarly, in BellSouth's region, competitors are serving 130,000 resold lines.

---

[27] *Telcos Lead New Fiber Deployment, Corning Expands To Meet Demand*, Fiber Optics News, Feb. 24, 1997 (quoting Corning executive Clifford Hund: "'The CLECs were where the action was in 1996. They put fiber in 47 states in 200 cities.").

[28] Brief in Support of Application at 35, Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., For Provision of In-Region, InterLATA Services in South Carolina, CC Dkt. No. 97-208 (F.C.C. Sept. 30, 1997).

[29] Order Addressing Statement and Compliance with Section 271 of the Telecommunications Act of 1996 at 32, Entry of BellSouth Telecommunications, Inc., Into InterLATA Toll Market, Dkt. No. 97-101-C, Order No. 97-640 (SCPSC July 31, 1997).

Data Services. Because voice telephone service is ubiquitous and familiar, many observers assess the state of local competition in terms of voice alone. But data traffic is growing much faster than voice[30] and will soon surpass it, if it has not already done so.[31] Much of the current growth in lines supplied by incumbent local phone companies is attributable to second phone lines, which are used mainly for fax and Internet services.[32]

Since passage of the 1996 Act, cable operators have begun offering data services to a rapidly growing number of customers in this high-growth segment of the market. By early 1997, 1.5 million homes could reach the Internet via high-speed cable modems.[33] By mid-1997, Time Warner alone was offering cable data links to over 800,000 homes;[34] TCI claims to reach nearly three million homes.[35] Cable operators continue to invest ambitiously in fiber optics,[36] signal compression, and high-speed cable-modem technology.[37] Microsoft has invested $1 billion in Comcast,[38] and is reportedly considering a similar investment in TCI.[39] A projected 80 percent of homes passed by cable lines will be able to access the Internet over cable by 2002, and a quarter are expected to subscribe; by that estimate, one third of all Internet users will be accessing the Internet over cable networks.[40]

---

[30]J.L. Barlage, et al., Smith Barney, Ind. Rpt. No. 1761069, Technology Topics, at 6 (Jul. 9, 1996) (voice traffic will grow 4 percent a year, while data traffic will grow by more than 40 percent annually).

[31]*More Traffic on The I'way*, Industries in Transition (Jan. 1997) (Data traffic constituted approximately one half of all user traffic in 1996 and is expected to reach 60 percent by 2001).

[32]L. Selwyn and J. Laszlo, ETI, The Effect of Internet Use on the Nation's Telephone Network at Table 3 (Jan. 22, 1997) (prepared for the Internet Access Coalition) (the demand for 6 million "second" residential subscriber lines in 1995 – almost half of all "second" residential lines – can be attributed principally to on-line access).

[33]D.H. Leibowitz, et al., Donaldson, Lufkin & Jenrette Securities, Ind. Rpt. No. 2546034, Cable Industry Outlook '97, at 16 (Apr. 17, 1997) ("*DLJ Cable Outlook*").

[34]Time Warner, Road Runner High-Speed Online Service, http://www.pathfinder.com/@@e*ceAAcAUP48ELee/rdrun/.

[35]TCI Press Release, *@Home Network Announces First Public Quarter Results; Subscriber Base Grows To 26,000, Marketable Homes Passed Increases To 2.7 Million*, Oct. 16, 1997.

[36]The U.S. cable industry accounted for 32 percent of the fiber-optic cable deployed in 1996. *Telcos Lead New Fiber Deployment*, Fiber Optics News, Feb. 24, 1997.

[37]24 cable operators have deployed commercial cable modem services in over 40 cities. Cable Datacom News, Commercial Cable Modem Launches in North America, Sept. 12, 1997, http://cabledatacomnews.com/cmic7.htm.

[38]A. Gould, et al., Oppenheimer & Co. Inc., Ind. Rpt. No. 2562652, Media Stocks: Cable Stocks Reconsidered, at 2 (Jul. 3, 1997) ("[T]he $1 billion Microsoft investment clearly points to the cable infrastructure as the preferred provider of high-speed data.").

[39]E. Shapiro, *TCI May Get Investment By Microsoft*, Wall St. J., Oct. 15, 1997, at A3.

[40]*DLJ Cable Outlook* at 13, 18.